



# **Ruitan IR Discovery User Manual**

**V1.2**

**IRay Technology Co., Ltd.**

[www.infiray.com](http://www.infiray.com)

Version change Description				
Serial number	version number	content of change	change time	Change sponsor
1	V1.0	Original creation	2023.01.15	KaiXing
2	V1.1	1. 4.2.6 Material library section, added export synthesis report function;  2. 4.3.7 Set the minimum snapshot interval to 5 seconds in the Scheduled Task section;  3. 4.4 In the off-line analysis section, add "Displaying line temperature Distribution Curve in Off-line Video Analysis";  4. 4.4.1Added the "overscore" function to the offline image analysis tool;  5. 4.7.1 Added System Function Mode;	2023.02.18	KaiXing
3	V1.2	1. modify the title of the instruction manual from "Ruitan Temperature Measurement and Analysis System" to "Ruitan IR Discovery Professional Temperature Measurement and Analysis Software";  2. chapter 4.2.4: add the "Picture Enlargement Preview"	2023.03.31	KaiXing

		<p>function;</p> <p>3. chapter 4.3.3: add the function of "setting the frame rate of recorded video";</p> <p>4. chapter 4.4: add the function of "displaying picture' s text notes" , and modify exporting MP4 format video of offline video;</p> <p>5. chapter 4.7.2: add the functions of "Snap Resolution Settings", "Video Interval (i.e. Video Frame Rate) Settings", and "Whole Frame Temperature Information Display Settings"</p>		
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## 1. Software Instruction

Ruitan IR Discovery Temperature analysis software (IR Discovery for short) is a professional PC temperature measurement analysis software that integrates equipment management, real-time temperature measurement analysis, gallery management, off-line analysis, alarm management, and temperature data analysis. The TAS matches with multiple series of hardware products manufactured by IRay Technology. It can provide professional and accurate temperature monitoring and intelligent analysis for industries, laboratories and other scenarios to optimize the hardware capability and facilitate the actual application.

## 2. Software Operating Environment

OS	Win7, win10, win11
CPU	Intel(R) Core (TM) i5-9500 @ 3.00GHz or above
Memory	8GB or above
Hard Disk	100GB or above
Network Card	Gigabit
Display	Super VGA (1024×768) Display (or with higher resolution)
Others	Can output audio

## 3. Applicable Products

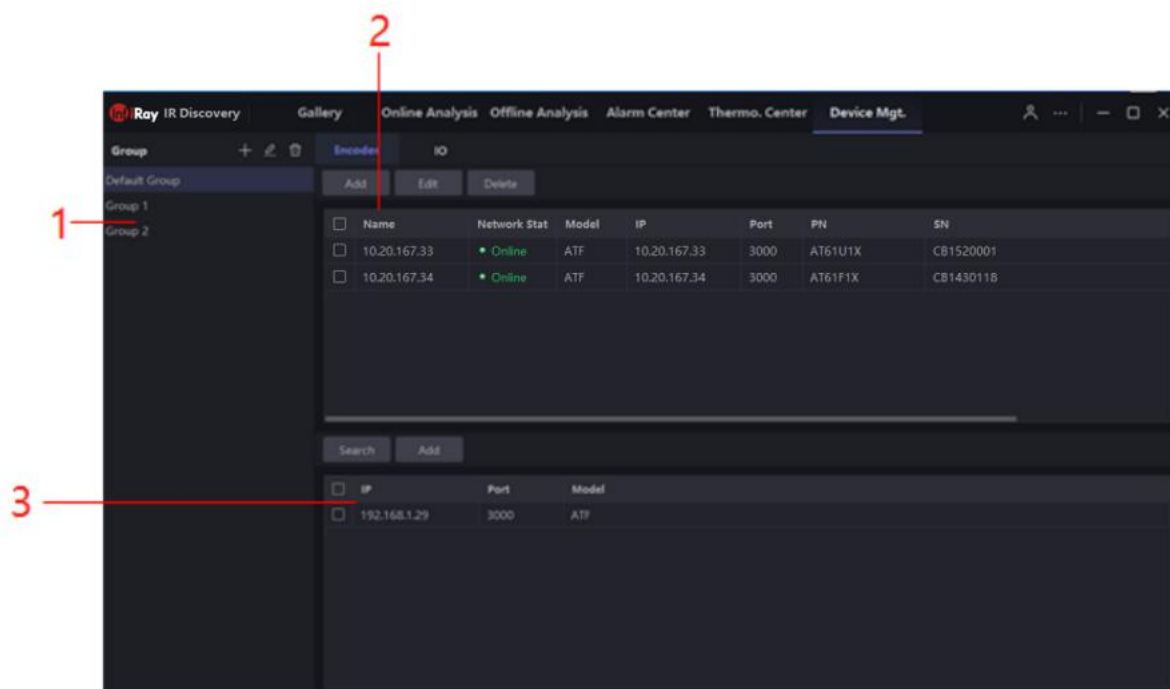
On-line Devices	AT300, AT600, AT31, AT61, AT31F, AT61F, AT31U, AT61U, AT31M, AT61M, AT1280
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Handheld Devices	P200, M200, M300, M320, M600, M620, C200, T300, T600, S1280
Thermal Imaging Cores	M3384, M3640, LT384, LT640, LT1280, LT384H, LT640H
Wireless Devices	S1280
IO Devices	MOXA

## 4. Software Operations

### 4.1 Device Management

To maintain and manage the Online devices and IO devices. The thermal imaging cores, handheld devices and wireless devices are unnecessary to be added and maintained here.

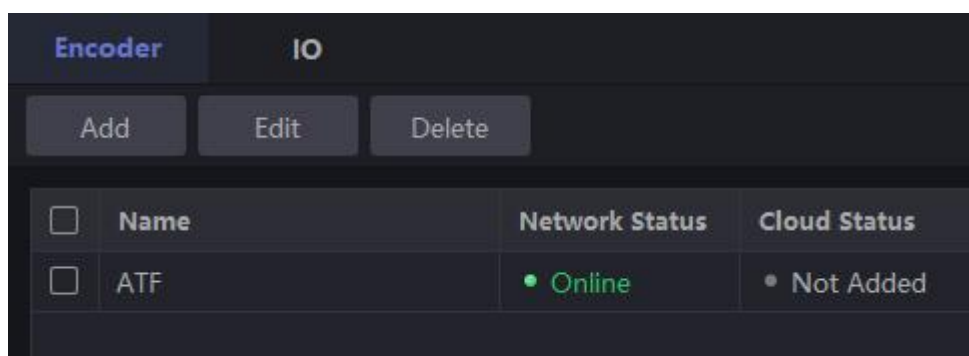


No.	Comments
1	Device group list

2	List of devices added to the group
3	Online device list

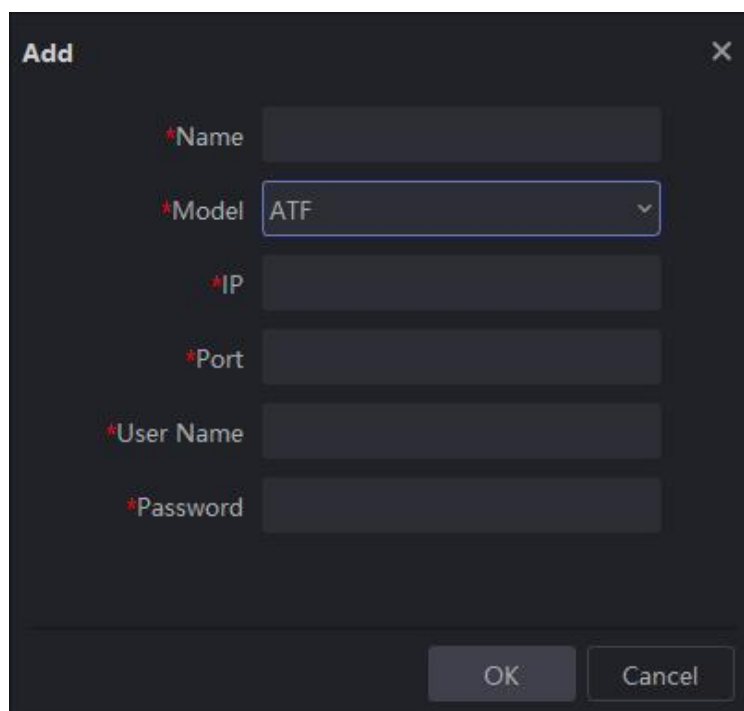
## 4.1.1 Add Encoding Devices Manually

### 4.1.1.1 Operation Instructions



#### Add Devices

Click *Add* button to pop up the Add Device window, as shown in the figure below. Fill in the device information according to the prompts. Click OK to complete.



#### Edit Device

After selecting an added device, click Edit button, and an editing window will pop up. Modify the device information, and click OK to complete the modification.

#### Delete Device

Select an added device and click the Delete button to delete the selected device.

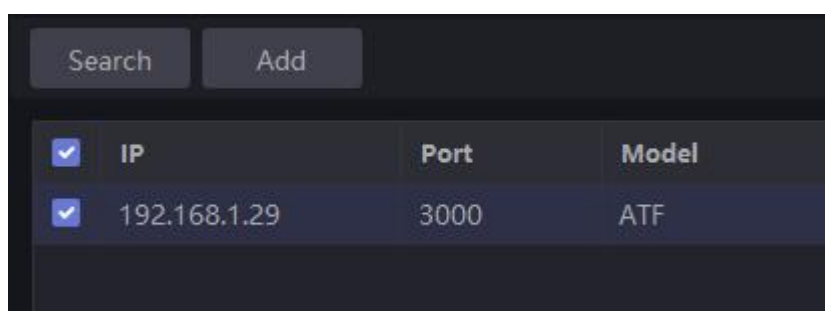


#### 4.1.1.2 Note

If you don't know the device model, IP, port, user name and password, please contact technical support personnel.

### 4.1.2 Search and Add Encoding Devices

#### 4.1.2.1 Operation Instructions



(1) Click the *Search* icon, and the system will automatically search for encoding devices in the current network.

(2) After selecting the device to be added, click *Add* button, and enter the user name and password of the device in the pop-up window. Then click *OK* button, and the system will add the encoding device to the device list at the top of the page.

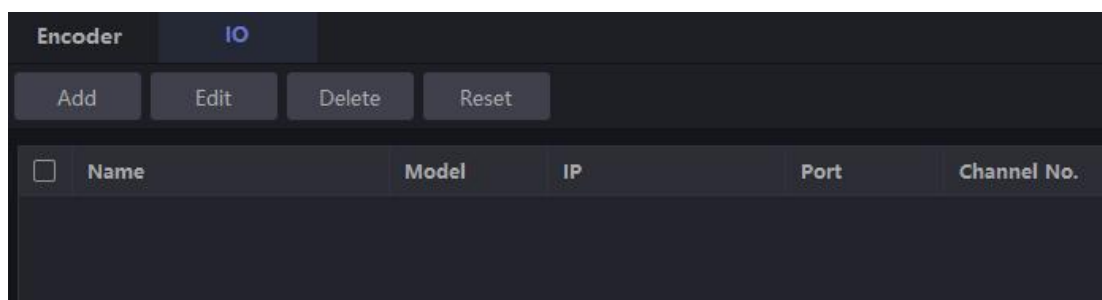
#### 4.1.2.2 Note

The user name and password will be added successfully regardless of whether they are correct. If the user name or password is incorrect, the system will display it as offline.

### 4.1.3 IO Device Management

#### 4.1.3.1 Operation Instructions

Select *IO* in the upper right corner of Device Management to switch the device list to the IO device list.



### Add Devices

Click *Add* button to pop up the Add Device window. Fill in the device information according to the prompts. Click *OK* to complete.

### Edit Device

After selecting an added device, click *Edit* button, and an editing window will pop up. Modify the device information, and click *OK* to complete the modification.

### Delete Device

Select an added device and click the *Delete* button in top right list to delete the selected device.

### Reset Device

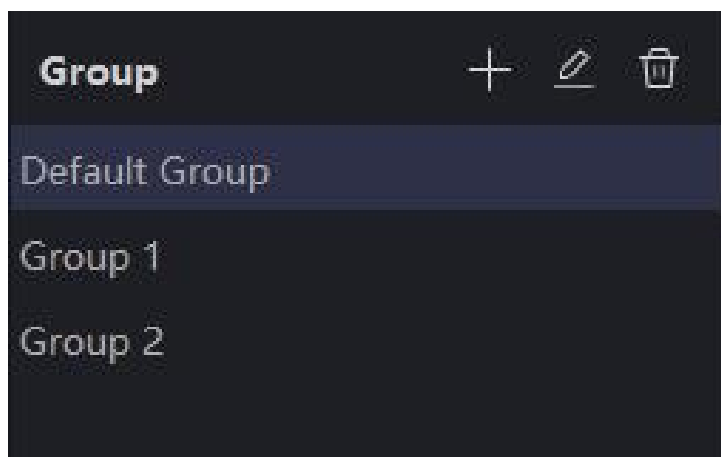
Select the added device and click *Reset* button in top right list to deactivate the device from alarm state.

### 4.1.3.2 Note


If the linkage alarm is ongoing, the IO device will immediately enter the alarm detection state again after clicking the *Reset* button.

## 4.1.4 Group Management


### 4.1.4.1 Operation Instructions



### Add Groups

Click  to pop up the group adding window. After filling in the group name, click *OK* to add a new group.

### Edit Groups

Click  and a modification window will pop up. You can modify the current group name. Click *OK* to finish the modification.

### Delete Groups

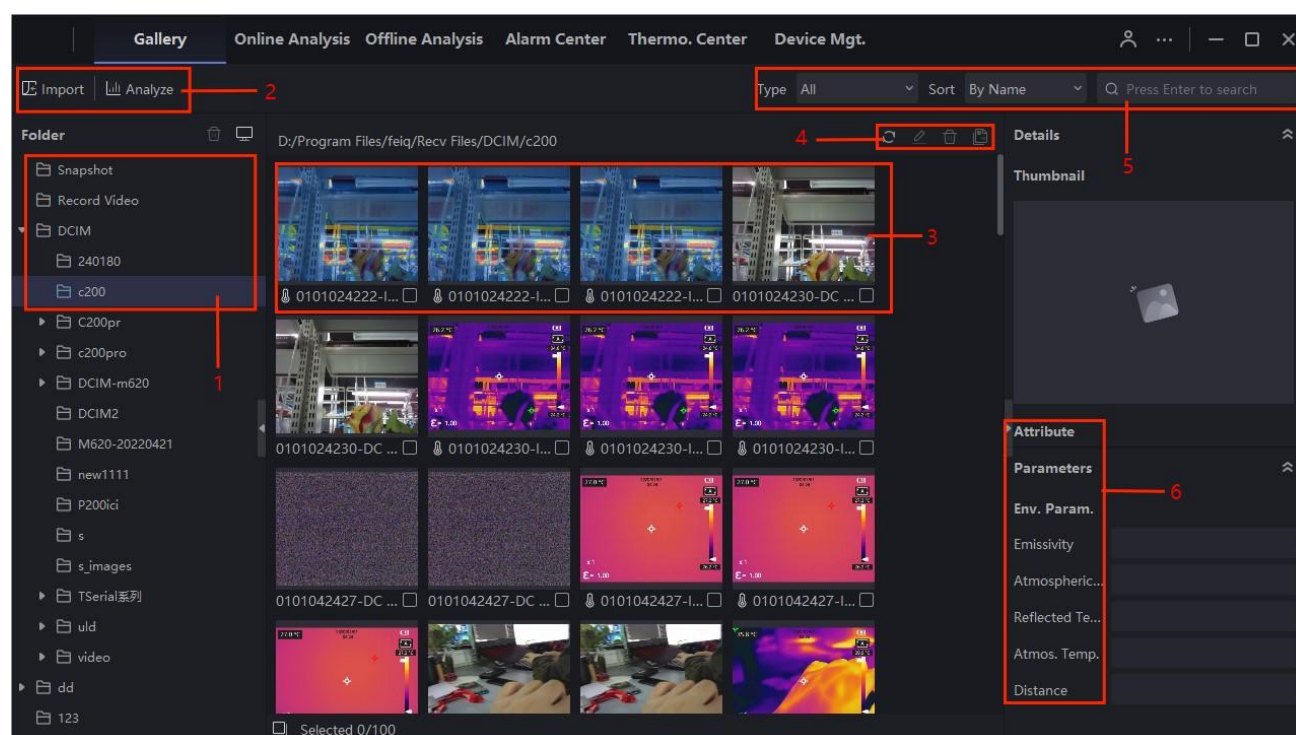
After selecting a group, click the  icon to delete it.

### 4.1.4.2 Note

Deleting a group will also delete all devices in the group. Please operate with caution.

The default group can neither be edited nor deleted.

## 4.2 Gallery



No.	Description
1	Folder Path List
2	Material Import and Analysis
3	Image and Video Display
4	Operation Buttons
5	Screening Tool Bar
6	Information Display Area
7	Material Selection Info.

## 4.2.1 Local Import

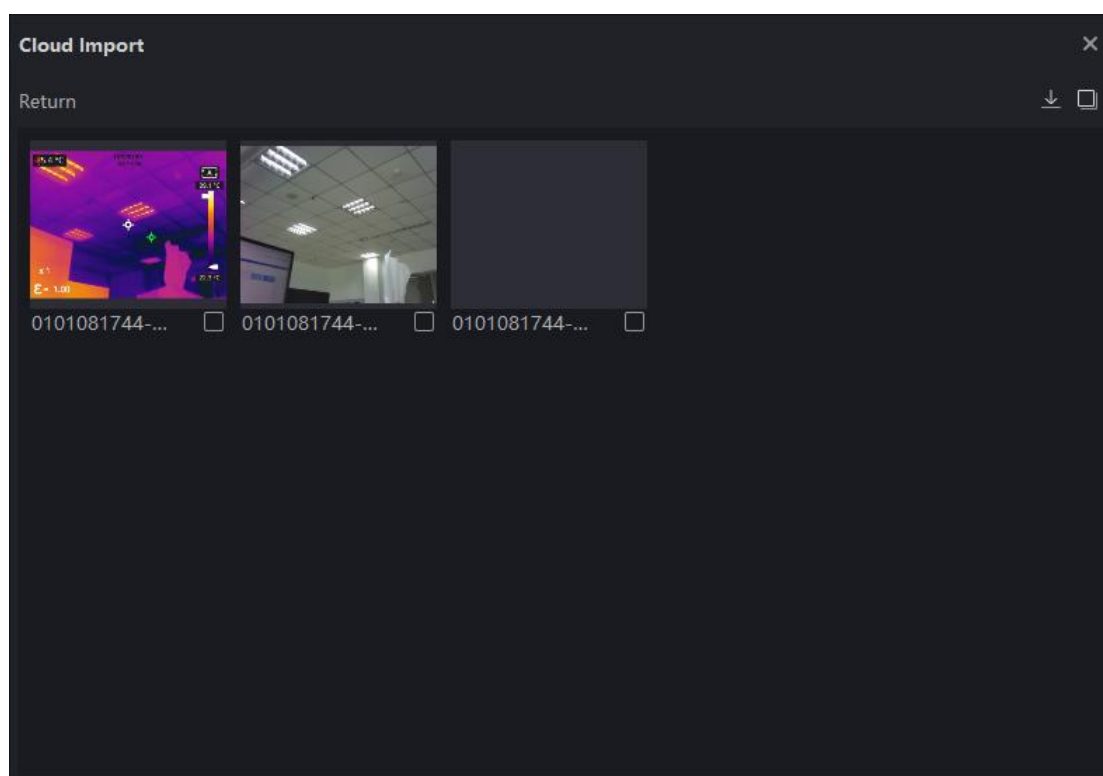
### 4.2.1.1 Operation Instructions

- (1) Click the *Import* button and select *Local Import* on the Gallery page.
- (2) Select the local folder path you want to import, and the system will automatically import the analyzable files under this path into the temperature measurement analysis software.


### 4.2.1.2 Notice

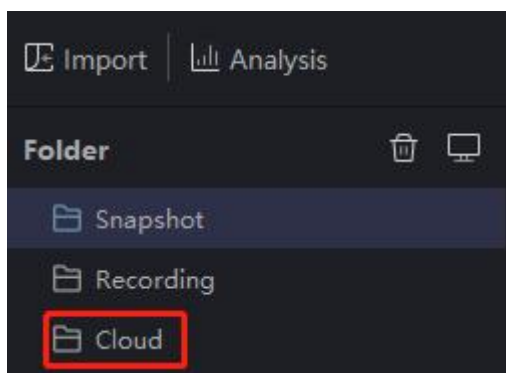
Local import is only to establish an address connection with local resources, and the file is still in the original location.

## 4.2.2 Cloud Import



### 4.2.2.1 Operation Instructions

- (1) Click the *Import* button and select *Cloud Import* on the Gallery page.
- (2) Select the image or video to be downloaded, click the  icon at the top right of the cloud import window, and download it to the default cloud storage path.




#### 4.2.2.2 Note

- (1) You need to log in to the cloud platform before performing operations on the cloud. For details, see Cloud section.
- (2) For the storage path configuration of the imported image/video in the cloud, please refer to the System Configuration chapter.


### 4.2.3 Folder Management

#### 4.2.3.1 Operation Instructions

##### Remove Folder

After selecting the folder to be deleted, click  on the upper right of the folder list to remove the folder from the software.

##### Quick Folder Opening

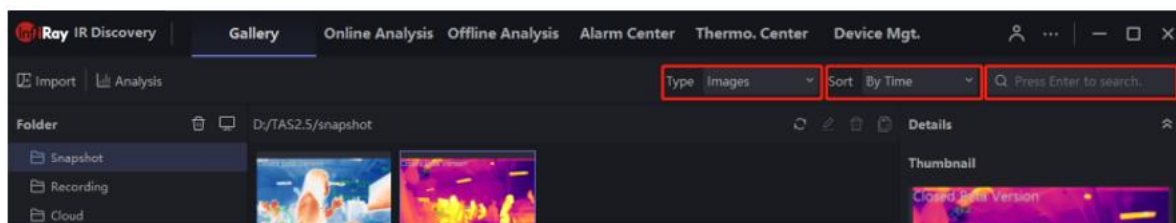
After selecting the folder to be deleted on the right, click  on the upper right of the folder list to quickly open the folder.

#### 4.2.3.2 Note

- (1) Folder removal is only to remove the folder from the software, and will not delete it in the local computer.
- (2) The default three folders of Snapshot, Recording and Cloud cannot be deleted.

## 4.2.4 Gallery Preview

### 4.2.4.1 Operation Instructions



#### Type

Click Type drop-down box at the top right of Gallery, and select the displayed type (All, Images, Video) from the drop-down list to quickly filter the type.

#### Sort

Click Sort drop-down box at the top right of Gallery, and select the sorting method (By Name, By Time) from the drop-down list to quickly sort the displayed images/videos.

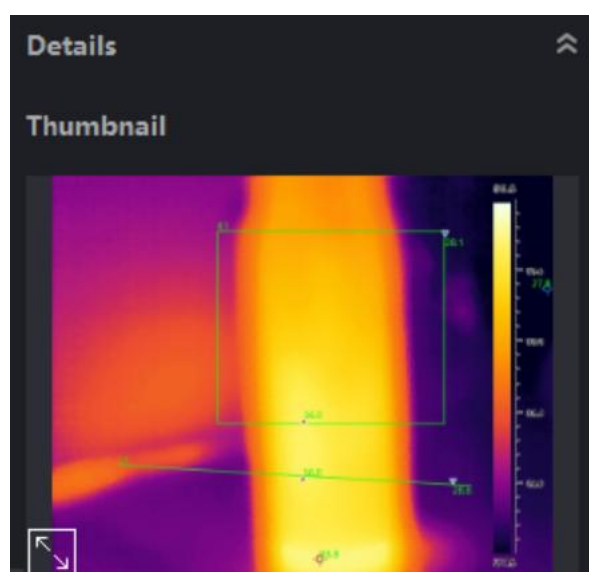
Note: by name is to arrange the image/videos by file names in ascending order, by time is to arrange the image/video by capture time in descending order.

#### Quick Search

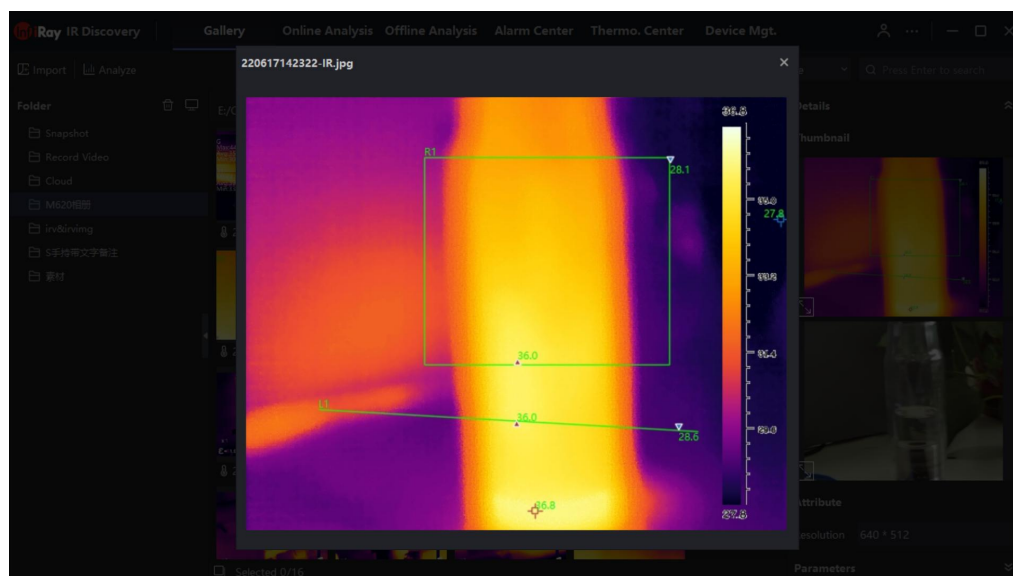
You can quickly search for the image by entering the image name in the quick search bar. The system supports image name fuzzy search.

#### Preview

Click the image/video to be previewed, you can preview the image/video and basic image/video information on the right side of Gallery.

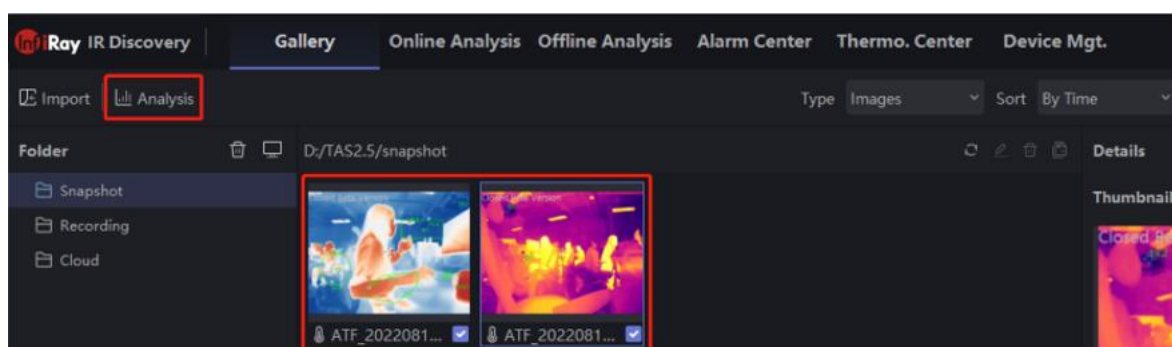


Click the zoom in icon in the lower left corner of the thumbnail, as shown in the above figure. In the pop-up window, zoom in to display the image, as shown in the following figure:



## 4.2.5 Image/Video Analysis

### 4.2.5.1 Operation Instructions

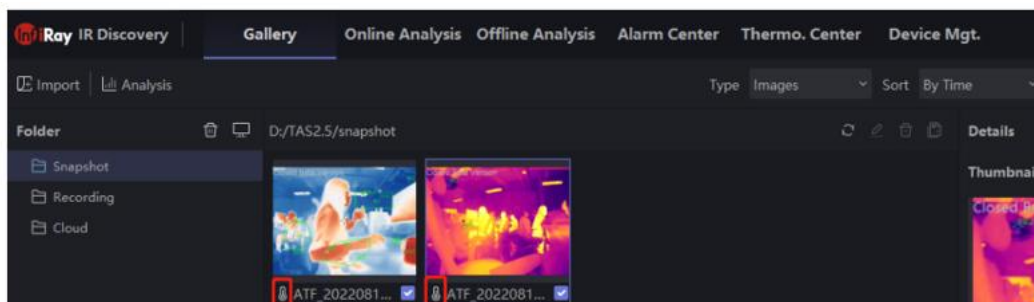


The first method: select the images or videos to be analyzed in batches, and then click the Analyze button on the upper left of Gallery to perform secondary analysis.

The second method: double-click the images or videos with the left mouse to quickly perform secondary analysis.

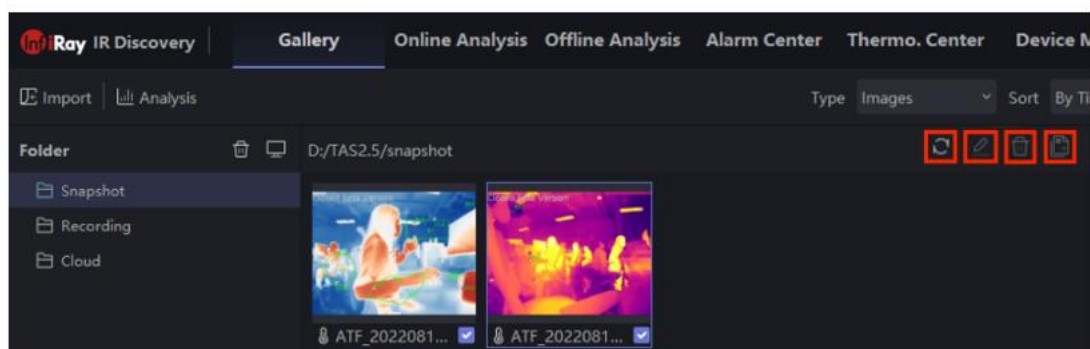
### 4.2.5.2 Note

Only the image/video with  marks can be analyzed.



## 4.2.6 Image/Video Management


### 4.2.6.1 Operation Instructions




#### Refresh

Click the refresh button to reload and display the images/videos of the current path.

#### Rename

Select the image/video, click the  icon, and a rename dialog box will pop up. After entering a new file name, click OK to complete the modification.

#### Batch reports export:

Select several images/videos, click the  button at the top right of the image/video list to pop up the report info setting interface, input the saving path and select the export file format, click OK to finish batch report export. After selecting multiple analyzable images, you can set the report type in the Export Report Information Settings dialog box. If independent report is selected, a separate temperature measurement report is generated for each analyzable picture. Select the composite report to generate a report that contains all the images that can be analyzed, the same content as the standalone report.

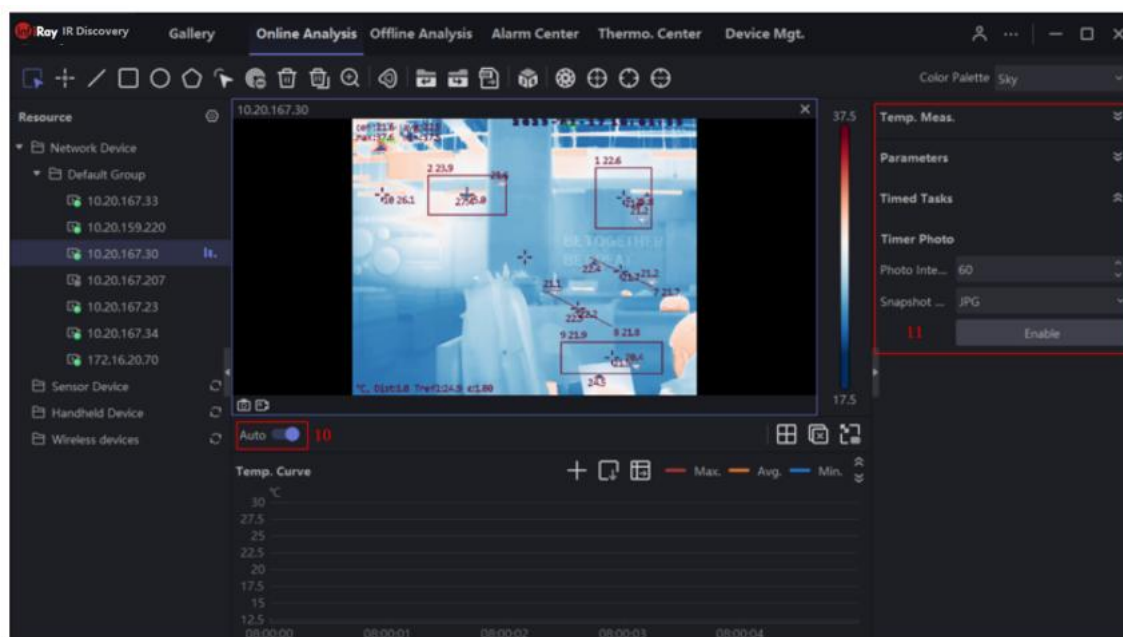
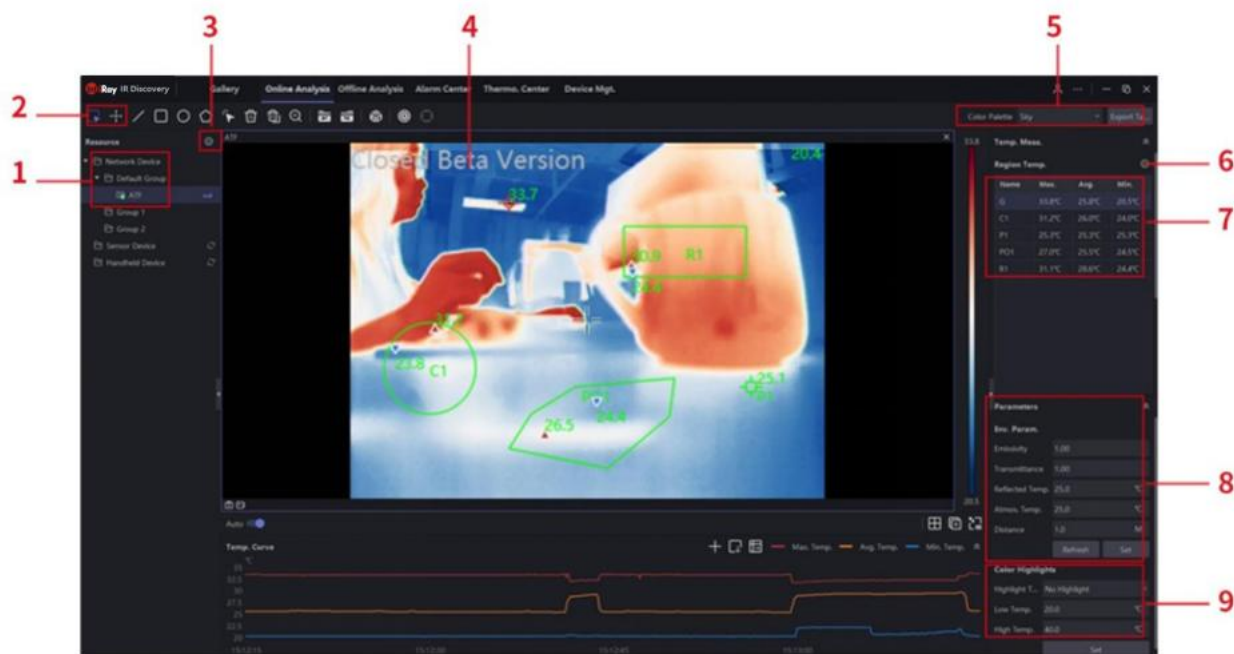
### 4.2.6.2 Note

Once the image/video is deleted, it will be deleted locally from the computer. Please operate with caution.



Now only the independent report can be exported.

## 4.3 Online Analysis




No.	Description
1	Device list
2	Temperature measurement tools

3	Configuration tools
4	Preview area
5	Change Color Palettes and export report
6	Alarm configuration
7	Region temperature information
8	Ambient parameters
9	Color highlight
10	Temperature scale switch
11	Scheduled tasks

## 4.3.1 USB Device Management




### 4.3.1.1 Operation Instructions

Handheld devices and modules can be identified on the computer via USB connector. If not, click  to refresh manually.






### 4.3.1.2 Note















(1) Online devices need to be maintained on the Device Management in advance. Please refer to the Device Management chapter.

(2) Device status

	Video Output
	Online
	Offline

## 4.3.2 Temperature Measurement Tools

Icon	Description	Functions
	Select	Select ROI
	Point	Draw points
	Line	Draw lines
	Rectangle	Draw rectangles
	Circle	Draw circles

	Polygon	Draw polygons
	Follow with mouse	Display temperature following the mouse
	Privacy Mask	Shield the temperature calculation and alarm linkage within the privacy mask area
	Delete the selected item	Select a tool and delete
	Delete all	Delete all tools
	Zoom in	Two options: Original Size and Adapt to Window are available
	Isothermal ribbon	Add Isothermal ribbon
	Export template	Export temperature measurement area and environmental parameters as template files
	Import template	Import previously exported template files
	3D	3D display of temperature data
	Shutter	Perform shutter correction
	Focus	Auto focus
	Focus	Manual Focus+
	Focus	Manual Focus-

### 4.3.3 Video Interface

#### 4.3.3.1 Operation Instructions

##### Video Preview

Double-click the device to display the preview screen.

The system currently supports up to four split screens.



##### Change Color Palettes

- (1) Click the Color Palettes drop-down box at the top right of the page to select different color palettes.
- (2) After switching the color palettes, the colorized bar on the right side of the video will change accordingly.

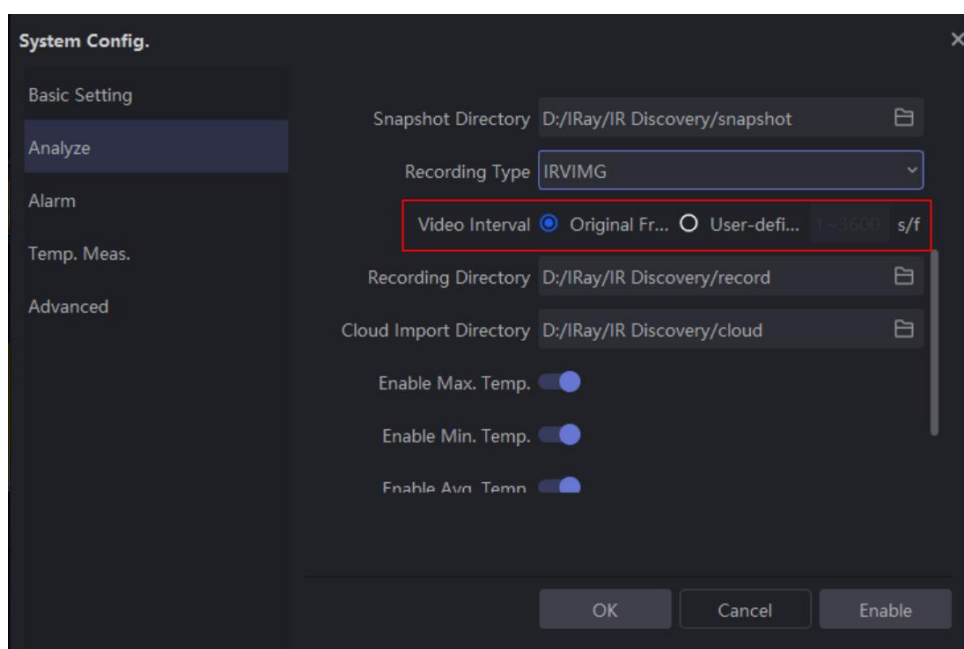
##### Temperature Scale

- (1) Manual level/span: Disable Auto level/span, and drag the two sides of the temperature bar to manually adjust level/span.
- (2) Auto level/span: Enable Auto level/span, and the level/span will be automatically adjusted according to the video.

## Manually recording video

After clicking the preview window toolbar icon , the icon status changed to , indicating that video recording for this channel has been turned on.

- (1) There is no limit to the duration of this video recording. The maximum duration of video recording depends on the space under the storage path. The storage path can be set at "System Configuration - Analysis - Recording Path". Recording will automatically stop when the space is full;
- (2) The software automatically segments video files based on the size of the recorded video file, with a maximum size of 2GB per slice. For segmented video, the software currently does not have the ability to merge segments, that is, each segment of the video is independent.
- (3) By default, recording video will record each frame of the output video stream from the device. You can set the video recording frame rate at "System Configuration Analysis Recording Interval", as shown in the following figure:





The default is "original frame rate of the device", which means that the recording device outputs each frame of the video stream. You can set a "custom frame rate", that is, record one frame of a picture at a specified time interval, with a time interval range of 1-3600 seconds.

### 4.3.3.2 Note




You need to select a split screen to perform corresponding operations under four split screen mode.

### 4.3.4 Real-time Temperature Curve

Icon	Functions
------	-----------

	Set the type of data curve
	Real-time curve screenshot
	Export real-time curve data

#### 4.3.4.1 Operation Instructions

- (1) Add or delete a curve: Click  on the real-time curve window, and the curve selection window will pop up. Check or uncheck, and then click OK to add or delete the curve accordingly.
- (2) Screenshot of real-time curve: Click  on the curve real-time curve window to save the curve displayed on the current screen to a local JPG image
- (3) Export of real-time curve data: Click  on the real-time curve window to save the real-time curve data to a local file.
- (4) Area amplification: Move the mouse to the real-time curve area, and scroll the mouse to zoom in or zoom out the real-time curve.

#### 4.3.5 Environment Parameters

##### 4.3.5.1 Operation Instructions

- (1) Refresh: Read the environment parameters of the current device
- (2) Setting: Enable the currently modified parameters.

#### 4.3.6 Highlight Temperature

##### 4.3.6.1 Operation Instructions

- (1) Highest temperature: Highlight the area in a video where the temperature is above or equal to the highest temperature.
- (2) Lowest temperature: Highlight the area in a video where the temperature is below or equal to the lowest temperature.
- (3) Within the interval: Highlight the area between lowest temperature and highest temperature.
- (4) Outside the interval: Highlight the area where the temperature is above the highest temperature and below the lowest temperature.

## 4.3.7 Scheduled tasks


### 4.3.7.1 Operation Instructions

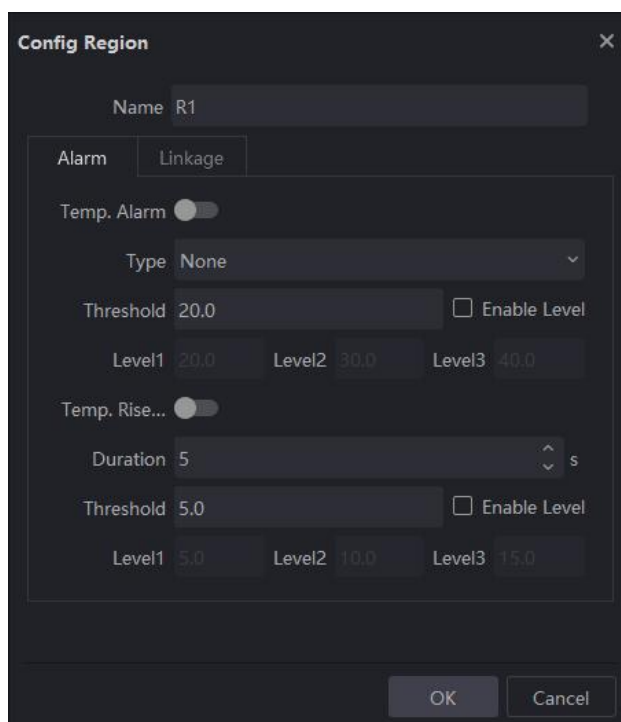
(1) Photo taking interval: the photo taking interval of two pictures can be set, with a minimum of 10 seconds per picture.

(2) Capture type: you can set the type of timing capture pictures. Support IRG (analyzable temperature picture), JPG, GW (State Grid format).

## 4.3.8 Alarm Settings

### 4.3.8.1 Operation Instructions

Select a temperature measurement area in temperature measurement –Config Region, click  in the upper right corner, and the alarm configuration interface will pop up, as shown in the following figure.



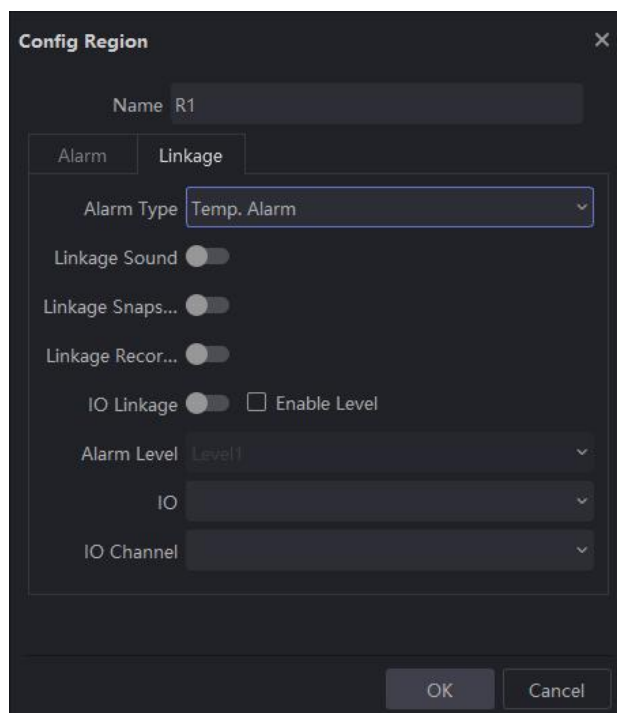
The image shows a 'Config Region' dialog box with a close button (X) in the top right corner. The 'Name' field is set to 'R1'. There are two tabs: 'Alarm' (selected) and 'Linkage'. Under the 'Alarm' tab, there are two sections. The first section is for 'Temp. Alarm' with a toggle switch that is currently off. It includes a 'Type' dropdown menu set to 'None', a 'Threshold' field set to '20.0', and an 'Enable Level' checkbox that is unchecked. Below these are three input fields for 'Level1' (20.0), 'Level2' (30.0), and 'Level3' (40.0). The second section is for 'Temp. Rise...' with a toggle switch that is currently off. It includes a 'Duration' field set to '5' with a unit 's' and a small up/down arrow, a 'Threshold' field set to '5.0', and an 'Enable Level' checkbox that is unchecked. Below these are three input fields for 'Level1' (5.0), 'Level2' (10.0), and 'Level3' (15.0). At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

#### (1) Alarm Type

- ① Temperature alarm: An alarm will be triggered when the measured temperature value is above or below the set value. Three alarm levels can be set after Enable Level is selected. The threshold value cannot be set after the alarm level is selected. At this time, the temperature alarm is subject to the temperature in the setting level.

- ② Temperature rise alarm: When the temperature rise value within the set time period is greater than the set threshold, an alarm message will be generated. Three alarm levels can be set after Enable Level is selected. The threshold value cannot be set after the alarm level is selected. At this time, the temperature alarm is subject to the temperature in the setting level.

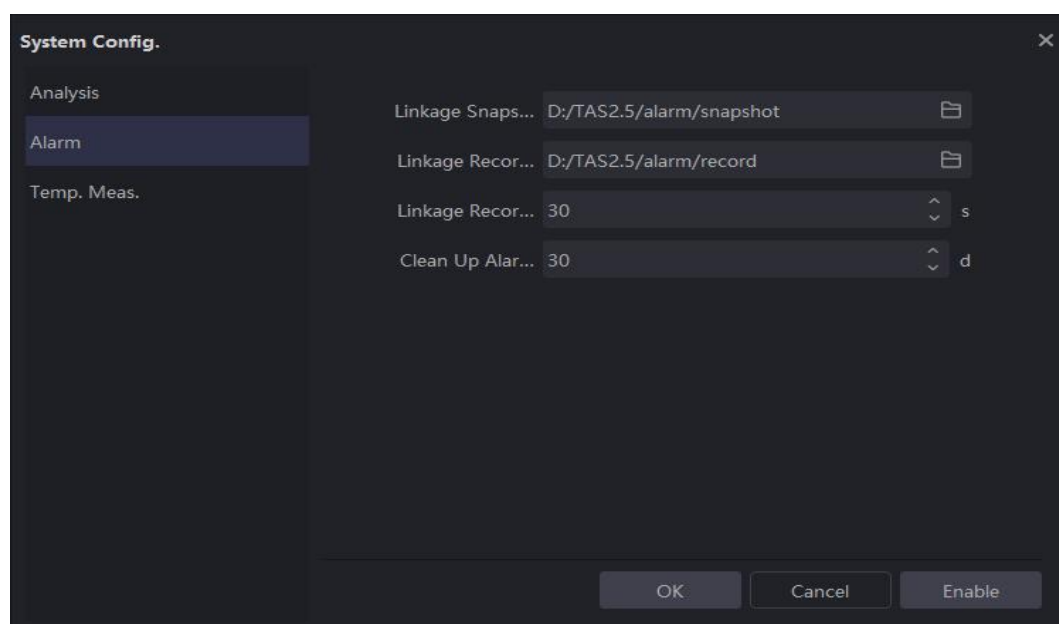
## (2) Alarm Linkage



The 'Config Region' dialog box is shown with the 'Linkage' tab selected. The 'Name' field is set to 'R1'. The 'Alarm Type' dropdown is set to 'Temp. Alarm'. The 'Linkage Sound', 'Linkage Snaps...', and 'Linkage Recor...' options are all disabled. The 'IO Linkage' option is disabled, and the 'Enable Level' checkbox is unchecked. The 'Alarm Level' dropdown is set to 'Level 1'. The 'IO' and 'IO Channel' dropdowns are also set to 'Level 1'. The 'OK' and 'Cancel' buttons are at the bottom right.

- ① After setting the alarm configuration, switch to the alarm linkage and select the alarm type.
- ② Select the corresponding linkage operations according to the actual needs. Click OK to complete the configuration.

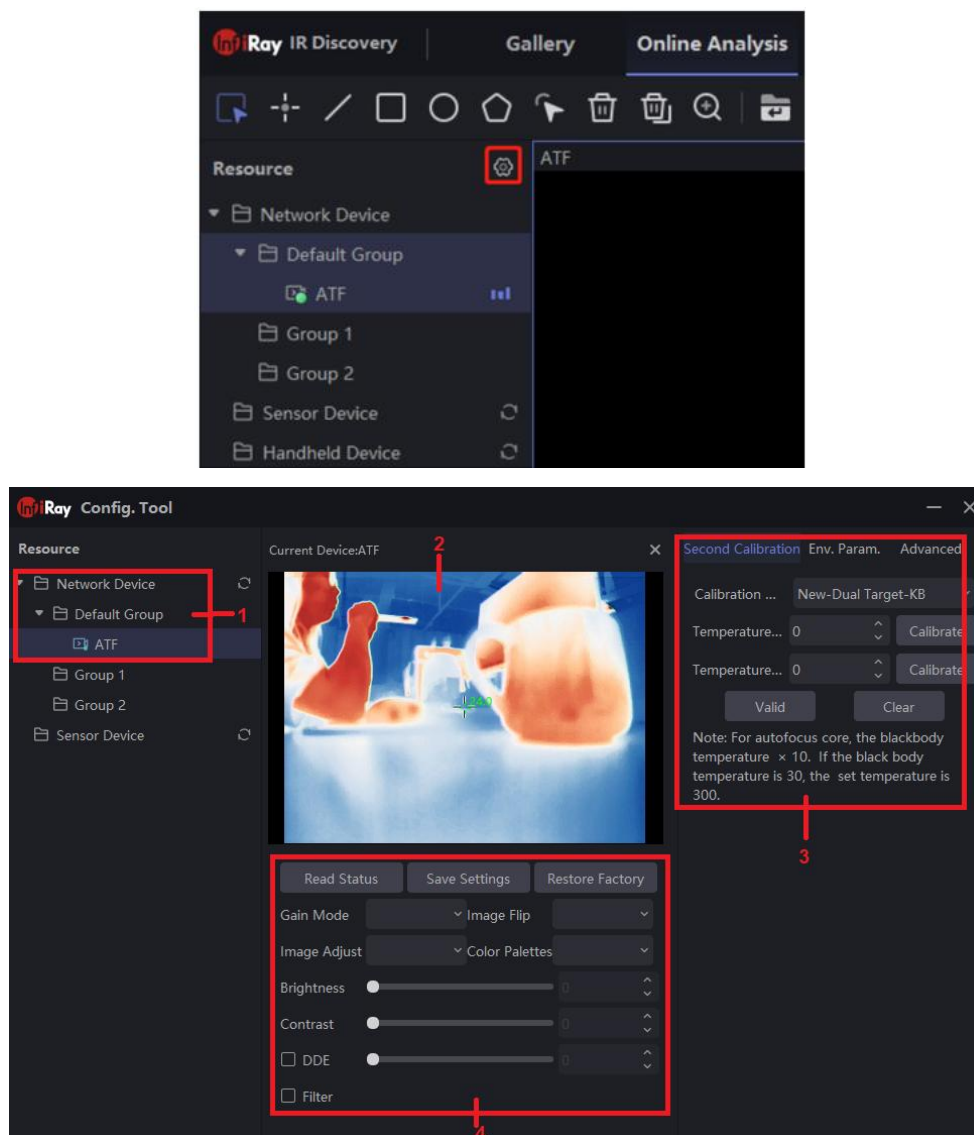
The storage path of linkage snapshot and linkage recording can be set in System Configuration.



The 'System Config.' dialog box is shown with the 'Alarm' tab selected. The 'Linkage Snaps...' field is set to 'D:/TAS2.5/alarm/snapshot'. The 'Linkage Recor...' field is set to 'D:/TAS2.5/alarm/record'. The 'Linkage Recor...' field is set to '30' with a unit of 's'. The 'Clean Up Alar...' field is set to '30' with a unit of 'd'. The 'OK', 'Cancel', and 'Enable' buttons are at the bottom right.

### 4.3.9 Configuration Tool

Enter the configuration tools by clicking the Settings icon in the upper right of the device list on the online analysis page.



No.	Description
1	Device list
2	Video preview
3	Second calibration, environment parameter and advance
4	Device status and settings



### 4.3.9.1 Operation Instructions

#### Device Status Display and Setting

- (1) Read status: Get the status parameters of the device.
- (2) Save settings: Save the modified parameters to the device.
- (3) Restore factory settings: The parameters can be restored to the factory default settings.
- (4) Sync time: synchronize with the PC time.

#### Secondary Calibration

- (1) Align the device with the blackbody and calibrate the device temperature.
- (2) Enable: Save the calibrated values.
- (3) Clear: Clear the set calibration value.

#### Environment Parameter Settings

- (1) Refresh: read the environmental parameters of the current device.
- (2) Setting: Set the currently modified parameters to the device and enable.

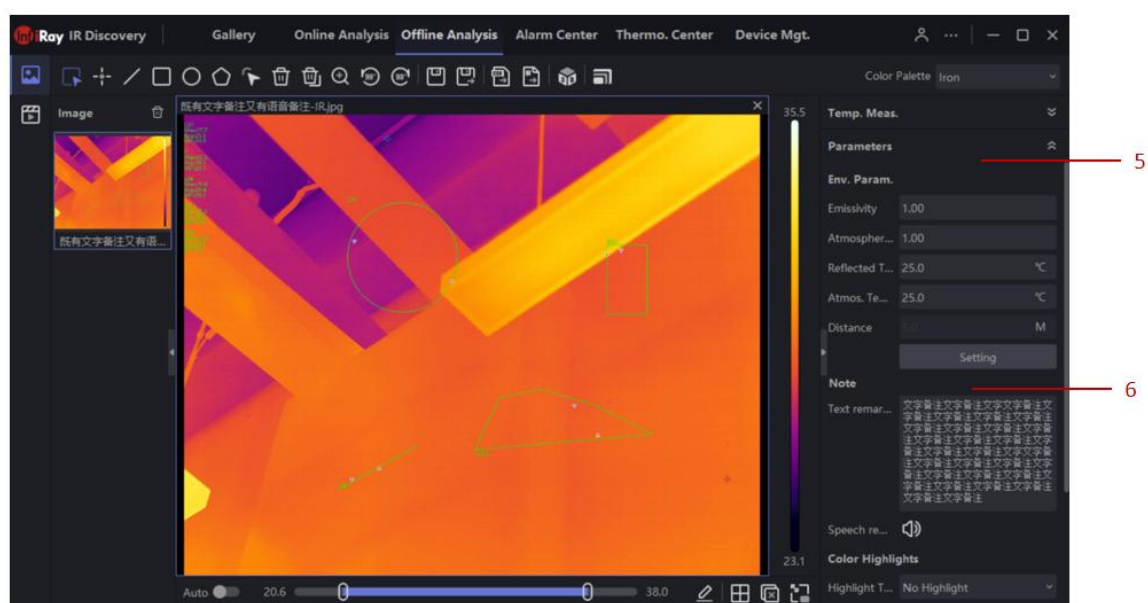
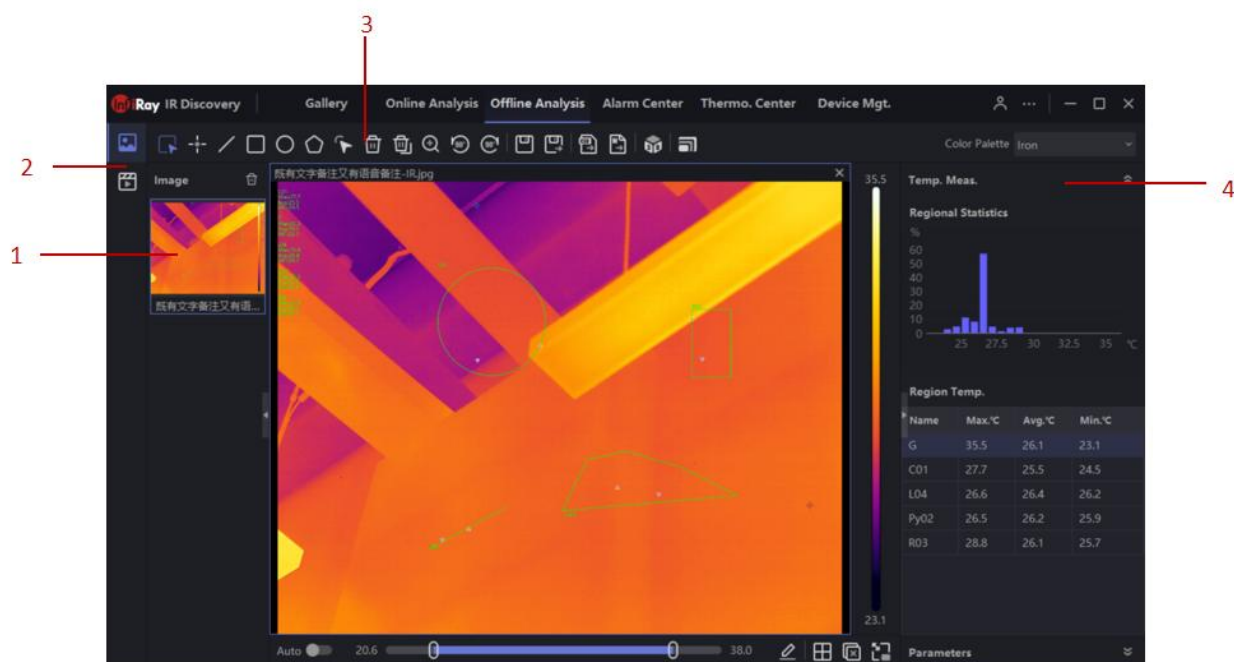
#### Advanced Settings

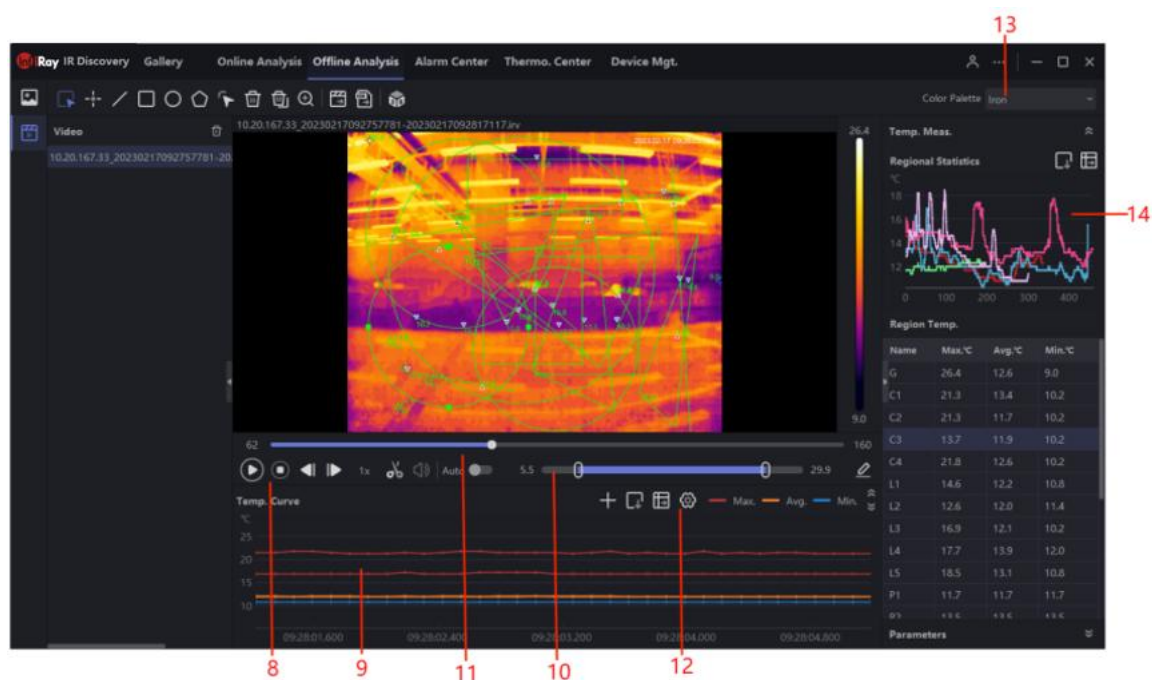
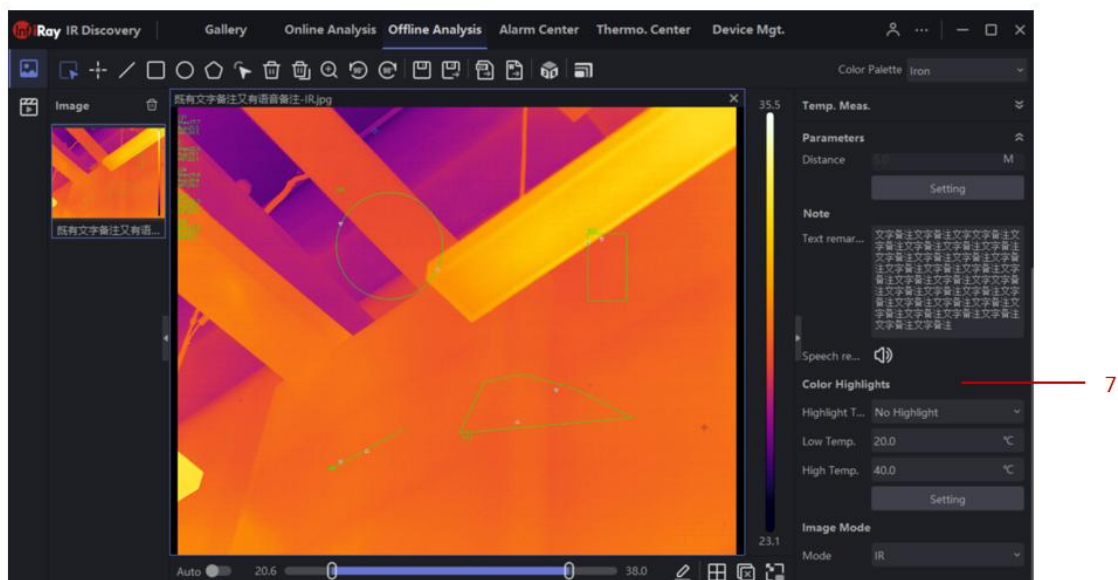
- (1) Module Version: Click Read to get software version number of the current device.
- (2) Update Firmware (supported by some devices): Update the internal software of the current device.
- (3) Update Color Palettes (supported by some devices): Update the color palettes settings.

### 4.3.9.2 Note

- (1) Select devices before performing any operations.
- (2) The secondary calibration is a professional calibration process. If you have any question, please contact the technical support personnel in time.

## 4.4 Offline Analysis

























No.	Description
1	Images/videos to be analyzed
2	Image and video switch
3	Temperature measurement tools
4	Temperature measurement display: temperature distribution histogram, temperature measurement data table
5	Environment data
6	Image notes information display: text notes, voice notes
7	Temperature highlight settings and Image mode

8	Video control tools
9	Real-time curve
10	Temperature scale
11	Video frame progress bar
12	Real-time curve tool
13	Change Color Palettes
14	Real-time temperature measurement data display (including only straight line area)

#### 4.4.1 Temperature Measurement Tools

Icon	Description	Functions
	Select	Select ROI
	Point	Draw points
	Line	Draw lines
	Rectangle	Draw rectangles
	Circle	Draw circles
	Polygon	Draw polygons
	Follow with mouse	Display temperature following the mouse
	Delete the selected	Select a tool and delete
	Delete all	Delete all tools
	Zoom	Select an image or video, and use the mouse wheel to zoom in and out
	Rotate Clockwise	Rotate 90 degrees clockwise
	Rotate Counterclockwise	Rotate 90 degrees counterclockwise
	Save Image	Saves and overwrites the image currently being analyzed
	Save As	Save the currently analyzed image as a new image
	3D	3D display of temperature data
	Export Table	Export temperature table of the full frame
	Export Reports	Export temperature analysis reports
	Switch time coordinate axis	Switch between absolute time and relative

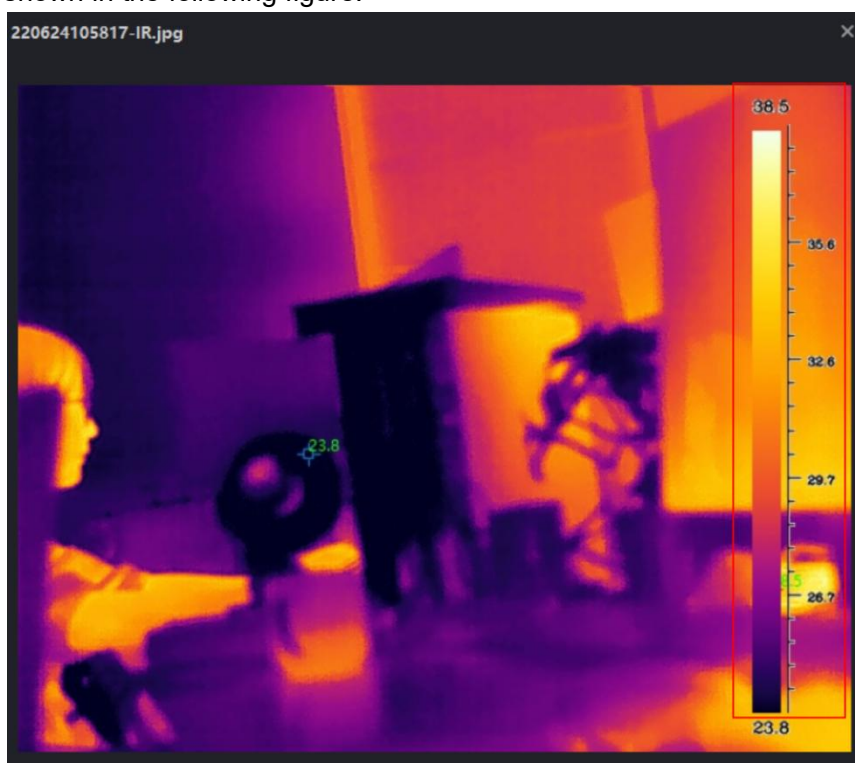
		time
	Super Resolution	Carry out super resolution on the picture, and enlarge the picture resolution by 2 times
	Export mp4	The thermal image video after secondary analysis can be exported to mp4 format, and the video carries information such as ROI and pseudo color setting during the analysis process

## 4.4.2 Image Analysis

### 4.4.2.1 Operation Instructions

- (1) Add the image/video to analysis list referring to Gallery – Second Analysis.
- (2) Use temperature measurement tools to perform corresponding analysis on the image/video.

After secondary analysis of the image, click the "Save" button, and the corresponding temperature scale will be displayed on the right side of the pseudo color bar in the saved image. You can view it in the material library, as shown in the following figure:



### 4.4.3 Real-time Curve

It has the same function as the online analysis. Please refer to the online analysis.

This function is only for video secondary analysis.








#### 4.4.4 Environment Parameters

It has the same function as the online analysis. Please refer to the *online analysis*.

#### 4.4.5 Temperature Highlight


It has the same function as the online analysis. Please refer to the *online analysis*.

#### 4.4.6 Video Tools

Icon	Functions
	Pause
	Stop
	Previous frame
	Next frame
	Play speed
	Video clip
	Audio play

#### 4.4.7 Export Reports

##### 4.4.7.1 Operation Instructions

- (1) Select the image to be exported, click  icon, and the following dialog box will pop up.
- (2) Fill in the corresponding information according to the prompts, and click OK to generate the report.

Export Report

Basic Info.

\*File Name

ATF\_20220812141202834

\*Save Directory

\*Type

DOCX

Note: MS-Word must be installed for PDF type

Report Info.

Logo

Import

Recommended Size: 100 \* 40

Header Title

Report Title

Note

≤200 chars

OK


Cancel

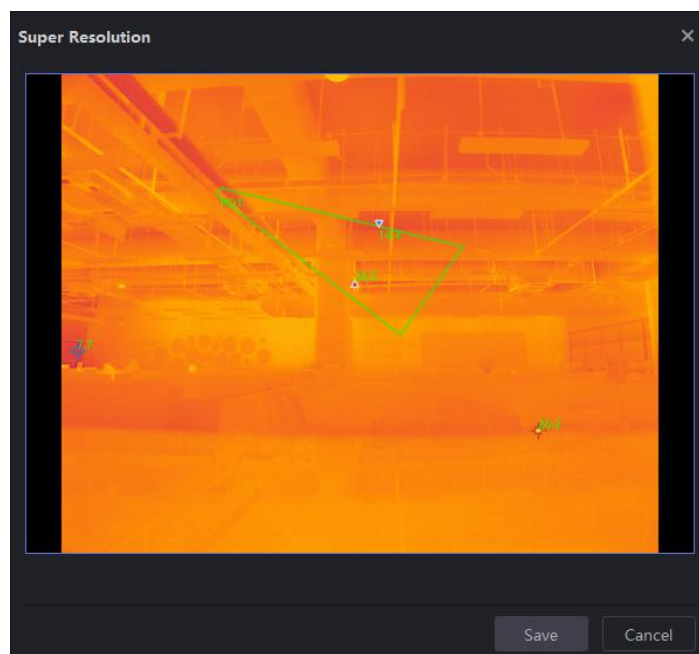
#### 4.4.7.2 Note

- (1) File name and storage path are required items.
- (2) To export PDF format, Microsoft Word needs to be installed in advance.

### 4.4.8 Image super resolution

#### 4.4.8.1 Operation Instructions

- (1) Select the image material you want to export, click  button, pop up the super resolution page.



(2) If you want to save the picture after the excess minutes, click the Save button and set the path to save the image.

#### 4.4.8.2 Note

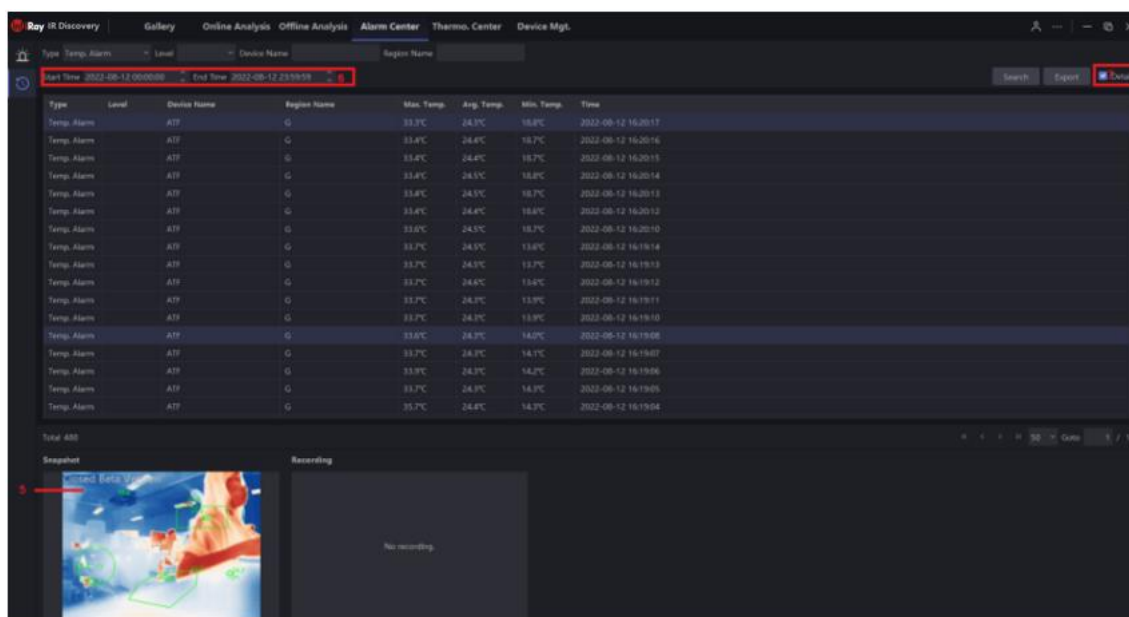
(1) If you want to save the picture after the excess minutes, click the Save button and set the path to save the image.

(2) Compared with the resolution of infrared data, the image resolution of the generated JPG image is \*2 in length and \*2 in width.

### 4.5 Alarm Center

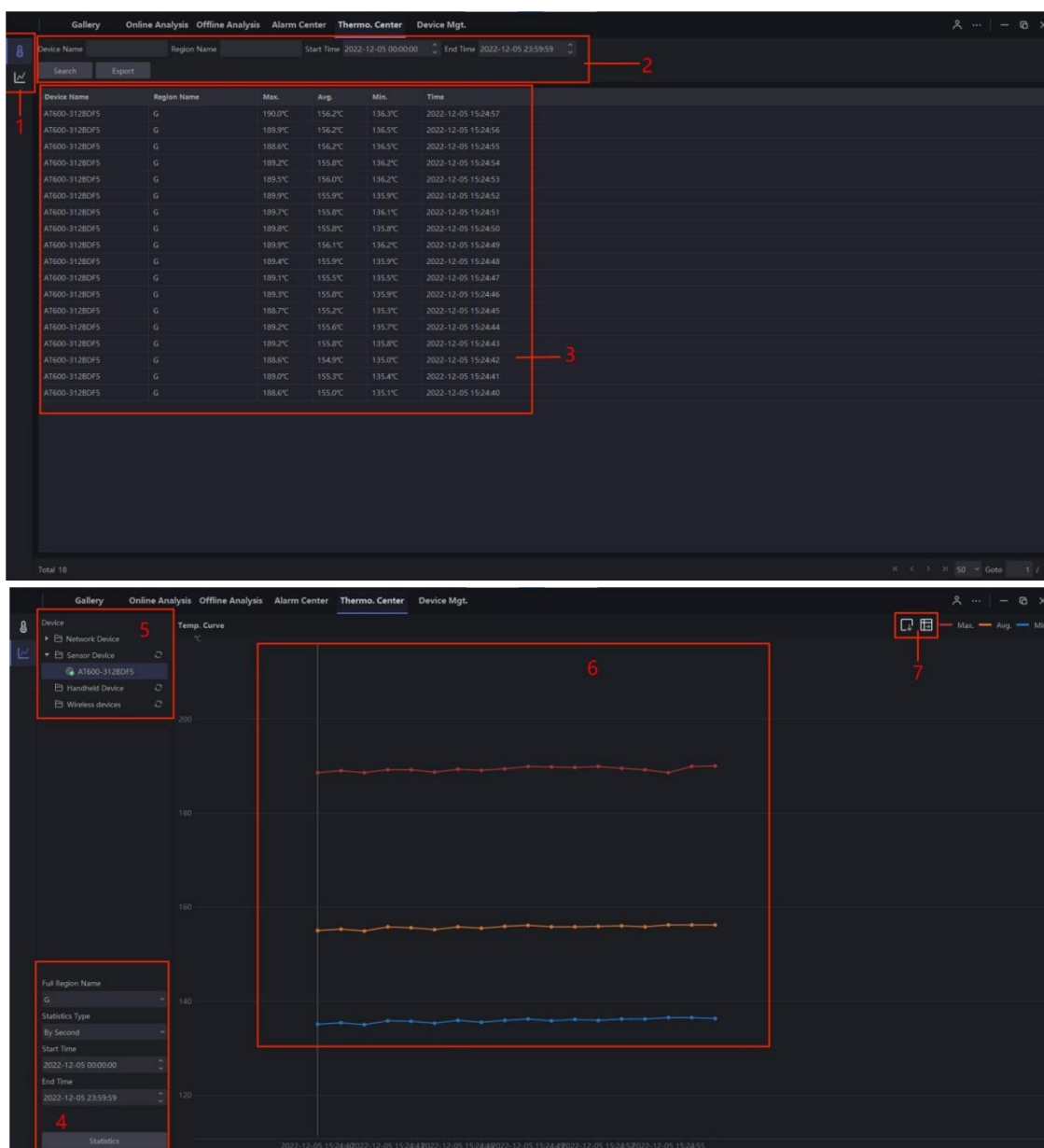
Type	Level	Device Name	Region Name	Max. Temp.	Avg. Temp.	Min. Temp.	Time
Temp. Alarm	A3	A3	G	33.7°C	25.0°C	19.2°C	2022-08-12 16:12:12
Temp. Alarm	A3	A3	G	33.7°C	25.0°C	19.1°C	2022-08-12 16:12:11
Temp. Alarm	A3	A3	G	33.4°C	25.0°C	19.2°C	2022-08-12 16:12:10
Temp. Alarm	A3	A3	G	33.7°C	25.1°C	19.1°C	2022-08-12 16:12:09
Temp. Alarm	A3	A3	G	33.4°C	25.0°C	19.0°C	2022-08-12 16:12:08
Temp. Alarm	A3	A3	G	33.4°C	25.2°C	20.1°C	2022-08-12 16:12:07





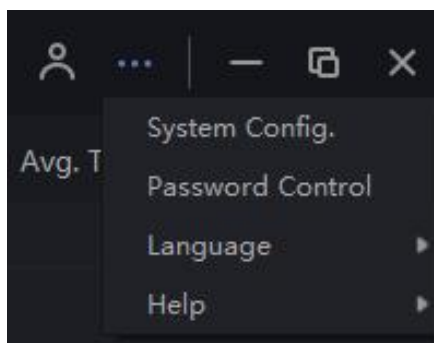
No.	Description
1	Switch between real-time alarm and alarm history
2	Real-time alarm operations
3	Real-time alarm screening
4	Real-time alarm history
5	Display alarm details
6	Screening condition of history alarm
7	Whether to display the details of alarm history

## 4.6 Thermography Center



No.	Description
1	Temp. record and statistics curve
2	Search tools for temperature records
3	Display area of temperature records
4	Screening conditions for temperature statistics curve
5	Select a device
6	Display of temperature statistics
7	Save images and export data

## 4.7 System Configuration



### 4.7.1 Basic Setting

On the basic Settings page, you can switch system function modes, including handheld mode and handheld + Online mode.

(1) After the system mode is switched to handheld mode, the program loads the corresponding functional options, including material library module, offline analysis module, and some functions in online analysis module: device list display and refresh, real-time preview, analysis tools, ROI temperature list display, real-time temperature curve, timing tasks, and environment parameter setting. Only temperature analysis and advanced Settings are reserved in the system configuration.

(2) After switching the system mode to handheld + online mode, the program loads all functional modules.

### 4.7.2 Temperature Analysis Configuration

(1) Region and font color: set the border and font color of the temperature measurement object.

(2) Font size: set the font size displayed on the temperature measurement area both online and offline analysis.

(3) Temperature unit: set the temperature unit in the system, including Celsius, Fahrenheit, and Kelvin.

(4) Distance unit: distance unit of environmental parameters

(5) Image format: set the type of images captured during online analysis. Supports IRG (analyzable temperature image), JPG, GW (State grid format).

(6) Capture Resolution: set the resolution mode for manually capturing or automatically capturing images during online analysis, including regular resolution and super resolution. The default is regular resolution.

(7) Capture path: set the storage path of captured images.

(8) Video format: set the file format of the recorded video during online analysis. Support IRV (analyzable temperature video), MP4.

(9) Recording Interval: set the frame rate for online analysis manual recording. The default is "original frame rate of the device", which means that software records each frame of the device outputting video

stream. You can set a "custom frame rate", that is, record one frame of a picture at a specified time interval, with a time interval range of 1-3600 seconds.

(10) Recording path: set the storage path of the recorded video file.

(11) Cloud import path: set the local storage path when downloading images/videos from the cloud platform.

(12) Display the highest temperature, lowest temperature, and average temperature: Set the type of temperature information displayed or included in real-time analysis, image offline analysis, video offline analysis preview screen, temperature measurement analysis report, exported csv temperature data file for entire frame or each ROI. Only when the switch is turned on will the preview screen or file be displayed or included.

(13) Display Entire Frame Temperature: Set whether to use the entire frame as an ROI for temperature statistics, display, alarm settings, etc. If the switch is turned off, the entire frame information will no longer be displayed in the software.

(14) Display temperature in preview screen: Set whether to display temperature statistics in real-time analysis, image offline analysis, and video offline analysis preview screens. This switch is turned off by default, that is, it is not displayed in the preview screen, but displayed in the temperature list on the right side of the preview screen.

### **4.7.3 Alarm Configuration**

(1) Linkage capture path: the storage path of the captured image of linkage alarm.

(2) Linkage video path: the storage path for recording video when linkage alarm is set.

(3) Linkage video duration: the length of video recorded when linkage alarm is set.

(4) Alarm data clearing: set the storage period for alarm data. The data exceeding the set period will be cleared automatically.

(5) Auto alarm off: turn the alarm on, set the filter time to auto turn off the alarm after the alarm is triggered.

### **4.7.4 Thermography Center Configuration**

(1) Collection interval: Set the time interval for storing temperature data to the local area when real-time analysis data is performed. The minimum interval is 1 minute.

(2) Temperature data clearing: Set the storage period for temperature data. The data that exceeds the set period will be cleared automatically.

### **4.7.5 Advanced Settings**

(1) Frame skip: after the value is set, a frame of temperature data will be collected for online video analysis after every setup frame.

(2) Enable GPU: enable GPU speed up manually.

(3) Enable OpenGL: enable OpenGL manually.

(4) Enable (ATU) automatic gain switching: for ATU equipment, automatic gain switching can be enabled. When the temperature exceeds the upper limit/lower limit and the maintenance time exceeds the filtering time, the equipment can automatically switch the high and low temperature gain.

## **4.7.6 Password Management**

Set password in configuration tools and alarm settings to prevent maloperation by unrelated personnel.

### **4.7.6.1 Operation Instructions**

- (1) Access the password control from the system menu.
- (2) Check Enable Password after entering the interface.

### **4.7.6.2 Note**

The original password is 123456. Change the default password after the initial login.


## **4.7.7 Switch Language**

Switch to a language supported by the system.

## **4.8 Cloud Platform**

### **4.8.1 Login and Logout**

#### **4.8.1.1 Operation Instructions**

Users can log in and log out through  in the upper right corner of the software.

#### **4.8.1.2 Note**

The present software only supports cloud account login, cloud account registration is unavailable. If you need a cloud account, please contact technical support personnel.